

Strategic Finance

Practice Questions: Investment Decisions

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Q1) Kim Inc. must install a new air conditioning unit in its main plant. Kim must install one or the other of the units; otherwise, the highly profitable plant would have to shut down. Two units are available, HCC and LCC (for high and low capital costs, respectively). HCC has a high capital cost but relatively low operating costs, while LCC has a low capital cost but higher operating costs because it uses more electricity. The costs of the units are shown here. Kim's WACC is 7%.

	0	1	2	3	4	5
HCC	-\$600,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000	-\$50,000
LCC	-\$100,000	-\$175,000	-\$175,000	-\$175,000	-\$175,000	-\$175,000

- Which unit would you recommend? Explain.
- If Kim's controller wanted to know the IRRs of the two projects, what would you tell him?

Q2) Ellison Products is considering a new project that develops a new laundry detergent, WOW. The company has estimated that the project's NPV is \$3 million, but this does not consider that the new laundry detergent will reduce the revenues received on its existing laundry detergent products. Specifically, the company estimates that if it develops WOW the company will lose \$500,000 in after-tax cash flows during each of the next 10 years because of the cannibalization of its existing products. Ellison's WACC is 10 percent. What is the net present value (NPV) of undertaking WOW after considering externalities?

Q3) A new coffee company, Blink Inc., can grow its crops in Latin America (project a) or Africa (project b). Assume the projects are independent.

Project A costs \$1.3 million and generates cash flows of \$312,000 at the end of each of the next 5 years, \$290,000 at the end of year 6, and \$300,000 at the end of year 7. Project B costs \$2.2 million and generates cash flows of \$480,000 at the end of each of the next 7 years.

Calculate the NPV for each project if the WACC is 10%. What is projects IRR.

Walshey Co has already decided to accept a project and is now considering how to finance it. The asset could be leased over four years at a rental of \$36,000 pa, payable at the start of each year. Tax is payable at 30%, one year in arrears. The post-tax cost of borrowing is 10%.

Required:

Calculate the net present value of the leasing option

Q4) A firm has decided to acquire a new machine to neutralize the toxic waste produced by its refining plant. The machine would cost \$6.4 million and would have an economic life of five years. Tax allowable depreciation of 25% pa on a reducing balance basis is available for the investment. Taxation of 30% is payable on operating cash flows, one year in arrears. The firm intends to finance the new plant by means of a five year Fixed interest loan at a pre-tax cost of 11.4% pa, principal repayable in five years' time.

As an alternative, a leasing company has proposed a finance lease over five years at \$1.42 million pa payable in advance. Scrap value of the machine under each financing alternative will be zero.

Evaluate the two options for acquiring the machine and advise the company on the best alternative.

Q5) ABC company is entering into a new business venture, different from its current business line. It is being expected that although company's current leverage structure is 40:60 (Debt:Equity), the company is likely to go for 60:40 structure (Debt:Equity) for this project. Tax rate of 30% is applicable.

The company wants to check the feasibility of the project via DCF technique. XYZ holds over 50% market share in the sector in which ABC is entering and operates with a leverage of 30:70 (Debt:Equity). As per available statistics, XYZ's Beta is 1.25.

If the risk free rate is 8%, market return is 12% and ABC's Beta is 1.2% and current company's risk adjusted interest rate is 10%. what shall be the company's appropriate discount rate for the project